

SEQUENCE LISTING

<110> Schwarz, Margaret A.

<120> METHODS OF FACILITATING VASCULAR GROWTH IN CARDIAC MUSCLE AND
METHODS FOR THE PRODUCTION OF RECOMBINANT EMAP II

<130> 9022-20

<140> US 09/733,306

<141> 2000-12-08

<150> US 60/171,874

<151> 1999-12-23

<150> US 60/197,558

<151> 2000-04-17

<150> US 60/231,759

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<150> US 60/241,138

<151> 2000-10-17

<160> 6

<170> PatentIn version 3.3

<210> 1

<211> 14

<212> PRT

<213> Artificial sequence

<220>

<223> Synthetic polypeptide

<400> 1

Cys Asp Ala Phe Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro
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<210> 2

<211> 1086

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (64)..(993)

<400> 2

gaggctgctc aagagctgcg gttgggtcac cgcttcattg ttctctgccg attctgggga 60

aag atg gca acg aat gat gct gtt ctg aag agg ctg gag cag aag ggt 108

Met Ala Thr Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly

1 5 10 15

gca gag gcg gat cag atc atc gaa tat ctc aag cag cag gtt gct ctt 156

Ala Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ala Leu

	20	25	30	
ctt aag gag aaa gca att ttg cag gca aca atg aga gaa gaa aag aaa				204
Leu Lys Glu Lys Ala Ile Leu Gln Ala Thr Met Arg Glu Glu Lys Lys	35	40	45	
ctt cga gtt gaa aat gct aaa ctg aaa aaa gaa ata gaa gag cta aag				252
Leu Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys	50	55	60	
caa gag ctg att ctg gca gaa att cat aac gga gtg gag caa gtg cgt				300
Gln Glu Leu Ile Leu Ala Glu Ile His Asn Gly Val Glu Gln Val Arg	65	70	75	
gtt cga ttg agt act cca ctg cag acg aac tgt act gct tct gaa agt				348
Val Arg Leu Ser Thr Pro Leu Gln Thr Asn Cys Thr Ala Ser Glu Ser	80	85	90	95
gtg gtg cag tct cca tca gta gca acc acc gcc tct cct gct aca aaa				396
Val Val Gln Ser Pro Ser Val Ala Thr Thr Ala Ser Pro Ala Thr Lys	100	105	110	
gag cag atc aaa gcg gga gaa gaa aag aag gtg aaa gag aag act gaa				444
Glu Gln Ile Lys Ala Gly Glu Glu Lys Lys Val Lys Glu Lys Thr Glu	115	120	125	
aag aaa gga gag aaa aag gag aag cag cag tcg gca gca gca agt act				492
Lys Lys Gly Glu Lys Lys Glu Lys Gln Gln Ser Ala Ala Ala Ser Thr	130	135	140	
gac tcc aag cct atc gac gca tcg cgt ctg gat ctt cga att ggt tgt				540
Asp Ser Lys Pro Ile Asp Ala Ser Arg Leu Asp Leu Arg Ile Gly Cys	145	150	155	
att gtt act gcc aag aag cac cct gat gca gat tca ctg tat gtg gag				588
Ile Val Thr Ala Lys Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu	160	165	170	175
gaa gta gat gtg gga gaa gca gcc ccg cgc acg gtc gtc agc ggg ctg				636
Glu Val Asp Val Gly Glu Ala Ala Pro Arg Thr Val Val Ser Gly Leu	180	185	190	
gtg aat cat gtt cct cta gaa cag atg caa aat cgt atg gtg gtt tta				684
Val Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Val Leu	195	200	205	
ctc tgt aat ctg aag cct gca aag atg cgg gga gtt ctg tct caa gcc				732
Leu Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala	210	215	220	
atg gtg atg tgt gcc agt tca cca gag aaa gtg gag att ctg gcc cct				780
Met Val Met Cys Ala Ser Ser Pro Glu Lys Val Glu Ile Leu Ala Pro	225	230	235	
ccc aac ggg tcc gtt cct ggg gac aga att act ttt gat gct ttt cct				828
Pro Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro	240	245	250	255
gga gag cct gac aag gag cta aac cct aag aag aag atc tgg gag cag				876
Gly Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln	260	265	270	

atc cag cct gac ctg cac acc aat gct gag tgt gtg gcc aca tac aaa 924
 Ile Gln Pro Asp Leu His Thr Asn Ala Glu Cys Val Ala Thr Tyr Lys
 275 280 285

gga gct ccc ttt gag gtg aag ggg aag gga gtt tgc aga gcc caa acc 972
 Gly Ala Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr
 290 295 300

atg gcc aat agt gga att aaa taagtgtct gtaactgaaa gacattggcg 1023
 Met Ala Asn Ser Gly Ile Lys
 305 310

aaaacttaat aacaataaag agaagtgtgt ttatcactta catataaaaa aaaaaaaaaa 1083

aaa 1086

<210> 3
 <211> 310
 <212> PRT
 <213> Mus musculus

<400> 3

Met Ala Thr Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly Ala
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Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ala Leu Leu
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Lys Glu Lys Ala Ile Leu Gln Ala Thr Met Arg Glu Glu Lys Lys Leu
 35 40 45

Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys Gln
 50 55 60

Glu Leu Ile Leu Ala Glu Ile His Asn Gly Val Glu Gln Val Arg Val
 65 70 75 80

Arg Leu Ser Thr Pro Leu Gln Thr Asn Cys Thr Ala Ser Glu Ser Val
 85 90 95

Val Gln Ser Pro Ser Val Ala Thr Thr Ala Ser Pro Ala Thr Lys Glu
 100 105 110

Gln Ile Lys Ala Gly Glu Glu Lys Lys Val Lys Glu Lys Thr Glu Lys
 115 120 125

Lys Gly Glu Lys Lys Glu Lys Gln Gln Ser Ala Ala Ala Ser Thr Asp
 130 135 140

Ser Lys Pro Ile Asp Ala Ser Arg Leu Asp Leu Arg Ile Gly Cys Ile
 145 150 155 160

Val Thr Ala Lys Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu Glu
 165 170 175

Val Asp Val Gly Glu Ala Ala Pro Arg Thr Val Val Ser Gly Leu Val
 180 185 190

Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Val Leu Leu
 195 200 205

Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala Met
 210 215 220

Val Met Cys Ala Ser Ser Pro Glu Lys Val Glu Ile Leu Ala Pro Pro
 225 230 235 240

Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro Gly
 245 250 255

Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln Ile
 260 265 270

Gln Pro Asp Leu His Thr Asn Ala Glu Cys Val Ala Thr Tyr Lys Gly
 275 280 285

Ala Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr Met
 290 295 300

Ala Asn Ser Gly Ile Lys
 305 310

<210> 4
 <211> 312
 <212> PRT
 <213> Homo sapiens

<400> 4

Met Ala Asn Asn Asp Ala Val Leu Lys Arg Leu Glu Gln Lys Gly Ala
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Glu Ala Asp Gln Ile Ile Glu Tyr Leu Lys Gln Gln Val Ser Leu Leu
 20 25 30

Lys Glu Lys Ala Ile Leu Gln Ala Thr Leu Arg Glu Glu Lys Lys Leu
 35 40 45

Arg Val Glu Asn Ala Lys Leu Lys Lys Glu Ile Glu Glu Leu Lys Gln
 50 55 60

Glu Leu Ile Gln Ala Glu Ile Gln Asn Gly Val Lys Gln Ile Ala Phe
 65 70 75 80

Pro Ser Gly Thr Pro Leu His Ala Asn Ser Met Val Ser Glu Asn Val
 85 90 95

Ile Gln Ser Thr Ala Val Thr Thr Val Ser Ser Gly Thr Lys Glu Gln
 100 105 110

Ile Lys Gly Gly Thr Gly Asp Glu Lys Lys Ala Lys Glu Lys Ile Glu
 115 120 125

Lys Lys Gly Glu Lys Lys Glu Lys Lys Gln Gln Ser Ile Ala Gly Ser
 130 135 140

Ala Asp Ser Lys Pro Ile Asp Val Ser Arg Leu Asp Leu Arg Ile Gly
 145 150 155 160

Cys Ile Ile Thr Ala Arg Lys His Pro Asp Ala Asp Ser Leu Tyr Val
 165 170 175

Glu Glu Val Asp Val Gly Glu Ile Ala Pro Arg Thr Val Val Ser Gly
 180 185 190

Leu Val Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Ile
 195 200 205

Leu Leu Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln
 210 215 220

Ala Met Val Met Cys Ala Ser Ser Pro Glu Lys Ile Glu Ile Leu Ala
 225 230 235 240

Pro Pro Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe
 245 250 255

Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu
 260 265 270

Gln Ile Gln Pro Asp Leu His Thr Asn Asp Glu Cys Val Ala Thr Tyr
 275 280 285

Lys Gly Val Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln
 290 295 300

Thr Met Ser Asn Ser Gly Ile Lys
 305 310

<210> 5
 <211> 166
 <212> PRT
 <213> Homo sapiens

<400> 5

Ser Lys Pro Ile Asp Val Ser Arg Leu Asp Leu Arg Ile Gly Cys Ile
 1 5 10 15

Ile Thr Ala Arg Lys His Pro Asp Ala Asp Ser Leu Tyr Val Glu Glu
 20 25 30

Val Asp Val Gly Glu Ile Ala Pro Arg Thr Val Val Ser Gly Leu Val
 35 40 45

Asn His Val Pro Leu Glu Gln Met Gln Asn Arg Met Val Ile Leu Leu
 50 55 60

Cys Asn Leu Lys Pro Ala Lys Met Arg Gly Val Leu Ser Gln Ala Met
 65 70 75 80

Val Met Cys Ala Ser Ser Pro Glu Lys Ile Glu Ile Leu Ala Pro Pro
 85 90 95

Asn Gly Ser Val Pro Gly Asp Arg Ile Thr Phe Asp Ala Phe Pro Gly
 100 105 110

Glu Pro Asp Lys Glu Leu Asn Pro Lys Lys Lys Ile Trp Glu Gln Ile
 115 120 125

Gln Pro Asp Leu His Thr Asn Asp Glu Cys Val Ala Thr Tyr Lys Gly
 130 135 140

Val Pro Phe Glu Val Lys Gly Lys Gly Val Cys Arg Ala Gln Thr Met
 145 150 155 160

Ser Asn Ser Gly Ile Lys
 165

<210> 6

<211> 13
<212> PRT
<213> Artificial

<220>
<223> Synthetic polypeptide

<400> 6

Asp Ala Phe Pro Gly Glu Pro Asp Lys Glu Leu Asn Pro
1 5 10